

Claims:

1. A thermal shim adapted for positioning between a wafer retention device and a pedestal, where said thermal shim comprises a low thermally conductive region and a high thermally conductive region.
2. The thermal shim of claim 1 wherein said low thermally conductive region is centrally located within the high thermally conductive region.
3. The thermal shim of claim 1 wherein said low thermally conductive region is a hole.
4. The thermal shim of claim 1 wherein said high thermally conductive region is in the shape of an annulus.
5. The thermal shim of claim 1 wherein the high thermally conductive region is fabricated of a metallic material.
6. The thermal shim of claim 5 wherein said metallic material is aluminum or copper.
7. The thermal shim of claim 1 wherein the thermal shim is fabricated of a corrugated material.
8. The thermal shim of claim 1 wherein the low thermally conductive region is an insulator.
9. A wafer support comprising:
 - a heat exchanger pedestal having a top surface;
 - a thermal shim having a high thermally conductive region and a low thermally conductive region; and
 - a wafer retention device having a bottom surface, wherein the thermal shim is located between the bottom surface of the wafer retention device and the top surface of the heat exchanger pedestal.

10. The thermal shim of claim 9 wherein said low thermally conductive region is centrally located within the high thermally conductive region.
11. The wafer support of claim 9 wherein said low thermally conductive region is a hole.
12. The wafer support of claim 9 wherein said high thermally conductive region is in the shape of an annulus.
13. The wafer support of claim 9 wherein the high thermally conductive region is fabricated of a metallic material.
14. The wafer support of claim 13 wherein said metallic material is aluminum or copper.
15. The wafer support of claim 9 wherein the thermal shim is fabricated of a corrugated material.
16. The wafer support of claim 9 wherein the low thermally conductive region is an insulator.
17. An etch reactor having a wafer support, wherein said wafer support comprises:
a heat exchanger pedestal having a top surface;
a thermal shim having an annular shaped a high thermally conductive region and a centrally located hole defined by the high thermally conductive region; and
an electrostatic chuck having a bottom surface, wherein the thermal shim is located between the bottom surface of the electrostatic chuck and the top surface of the heat exchanger pedestal.
18. The etch reactor of claim 1 where the thermal shim is fabricated of metal.
19. The etch reactor of claim 1 wherein the thermal shim is corrugated.

20. A wafer support comprising:
- a heat exchanger pedestal having a top surface;
 - means for controlling thermal conductivity having a high thermally conductive region and a low thermally conductive region; and
 - a wafer retention device having a bottom surface, wherein the means for controlling thermal conductivity is located between the bottom surface of the wafer retention device and the top surface of the heat exchanger pedestal.
21. The wafer support of claim 20 wherein said means for controlling the thermal conductivity is a thermal shim.

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